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# **ATTACHMENT A**

September 1998

## COMPETITION IN THE HIGH-SPEED BROADBAND MARKET

Bell Atlantic's densely populated Northeastern region has attracted numerous entrants that either currently deploy or soon will deploy high-speed broadband facilities that bypass the local telephone network.

- ◆ Cable.

Cable modems already have been deployed in every single major metropolitan area in the Northeast. Unfettered by regulations that apply to local telephone companies, monopoly cable companies have attracted massive capital investment from many of the largest and deepest-pocketed corporations in America, including Microsoft and AT&T. The Forrester Report, "Broadband Hits Home," August 1998. This investment gives monopoly cable companies the resources to roll out services quickly:

- ◆ Armed with \$1 billion of Bill Gates's money, Comcast aggressively has rolled out cable modems in large sections of Maryland, Pennsylvania and New Jersey. Comcast already has 10,000 subscribers in suburban northern New Jersey alone and 30,000 overall. PRNewswire, Aug. 28, 1998.
- ◆ MediaOne's broadband technology, already available in some markets, will be "available to all 8 million homes in the MediaOne territory by late 1999." MediaOne already serves 17 states, among them Maine, Massachusetts, New Hampshire, Rhode Island, New York and Virginia. [http://www.mediaone.com/who\\_we\\_are/overview/overview.htm](http://www.mediaone.com/who_we_are/overview/overview.htm); [http://www.mediaone.com/who\\_we\\_are/presskit/facts/facts\\_figures.htm](http://www.mediaone.com/who_we_are/presskit/facts/facts_figures.htm)
- ◆ Cablevision has signed an exclusive agreement with @Home to deploy cable modems in its properties in New York, New Jersey, Massachusetts, Connecticut and Ohio. These properties have millions of customers. [http://www.home.net/corp/news/pr\\_971002\\_01.html](http://www.home.net/corp/news/pr_971002_01.html)

- ◆ Time Warner already has signed up 7% of its cable customers in Portland, Maine for high-speed Internet services. "Cable Modem Count Speeds Past 200K," Multichannel News, <http://204.243.31.23/cgi-win/csear...1%2ecom%2fhtml1%2f18%2fmode18%2ehtm>. Time Warner also offers cable modem service in Bell Atlantic's territory in parts of upstate New York (including Albany, Binghamton, and Troy). <http://www.rr.com/rdrun/about/howtoget.html>
- ◆ Garden State Cable has signed an agreement to pass 300,000 homes in southern New Jersey starting at the end of 1998. [http://www.home.net/corp/news/pr\\_980630\\_03.html](http://www.home.net/corp/news/pr_980630_03.html)
- ◆ Cox @Home already has cable modem availability in key areas of Rhode Island and parts of Newport News, Williamsburg, Chesapeake and Hampton Roads in Virginia. [http://www.home.net/home/availability/cox\\_av.html](http://www.home.net/home/availability/cox_av.html); <http://www.cox.com/highSpeed/Hampton.html>
- ◆ Adelphia Cable has rolled out modems in Vermont, Virginia, Pennsylvania, New York, New Jersey and Massachusetts. CableFax, July 1 and July 15, 1998. Nationwide it has 11,000 high-speed data customers, and claims to be signing up 1,000 new customers a month. "Cable Modem Count Speeds Past 200K," Multichannel News, <http://204.243.31.23/cgi-win/csear...1%2ecom%2fhtml1%2f18%2fmode18%2ehtm>. Indeed Adelphia already passes 1.5 million of its households with one-way and two-way high-speed Internet access service today, and plans to pass all of its subscribers by next year. Id.
- ◆ TCI/AT&T. AT&T minces no words proclaiming it will be, after its merger with TCI, the local broadband incumbent in many areas: "AT&T Consumer Services will own and operate the nation's most extensive, broadband local network platform. Following the merger, the new unit intends to significantly accelerate the upgrading of its cable infrastructure, enabling it to begin providing digital telephony and data services to consumers by the end of 1999, in addition to digital video services." <http://www.att.com/press/0698/980624.cha.html>. This deployment will continue to gain speed; a recent article in America's Network notes that AT&T's acquisition of TCI brings instant credibility and brand awareness to cable modems at the exact time they are being shipped in mass-market numbers. "Cable modems vs. DSL: Is There Room for Both?" America's Network, Sept. 1, 1998.
- ◆ Even smaller cable operators have joined the fray. Western Shore Cable Television, serving 20,000 customers in Maryland, offers one-way cable modem service and says that Bell Atlantic is "not a big threat" to its high-speed data services incumbency. "Tiny-System Subs Demand Cable Modems," Multichannel News, <http://204.243.31.23/cgi-win/csear...1%2ecom%2fhtml1%2f26%2fmode26%2ehtm>

◆ Fiber to the home.

RCN is laying fiber to 9 million customers in the dense Boston/Washington corridor. Already RCN claims it has passed 122,000 homes with “advanced fiber.” “RCN Doubles On-Net Homes Passed; Advanced Fiber Connections Up More Than 135%,” Press Release (July 22, 1998). <http://www.rcn.com/investor/press/07-98/07-22-98.html>. RCN’s “lines feed into your house at 51 megabits per second, 1,000 times as fast as a conventional phone modem and 5 times as fast as a cable modem.” <http://www.forbes.com/forbes/97/1229/6014088a.htm>. RCN’s President has announced he will “wire up 9 million cable, phone and Internet users among the 25 million households in his chosen territory, the corridor from Boston to Washington, D.C.” Id.

◆ Wireless.

Winstar and Teligent. Some analysts predict wireless broadband solutions now being rolled out will be the low-cost way to provide broadband. Salomon Smith Barney writes that Winstar and Teligent own “licenses [that] offer ubiquitous broad-bandwidth access to the largest number of local lines on the lowest cost basis with point to multi-point technology.” Indeed it believes that “anywhere between 66%-75% of business access lines in U.S. [sic] are in buildings where radio frequency will be the more economic alternative relative to either Bell copper loops, T-1s or fiber.” “Why the Summer Doldrums?” First Call, August 26, 1998.

Winstar already offers broadband wireless to its business customers through its “Wireless Fiber” technology. “WinStar Retail Broadband Wireless,” <http://www.zdnet.com/intweek/print/970217/inwk0050.html>. By the end of 1999,

Winstar expects to have implemented nationally a new high-speed broadband network to carry "enhanced voice, data, video-conferencing, LAN-LAN interconnections, file transfer, MPEG-2 video, distance learning, email and high-speed Internet access" over channels capable of carrying 250 megabits per second. The company noted that the new broadband network will "allow us to reach a majority of the commercial marketplace cost-effectively." Corporate Release, "Winstar Expands Point-to-Multipoint Broadband Demonstration Network in Washington, D.C.," September 1, 1998, <http://www.businesswire.com/webbox/bw.090198/795338.html>. NationsBanc Montgomery Securities tells investors to "Buy Winstar: The Only National, Operational, and Scalable Purveyor of Bandwidth." First Call, Aug. 13, 1998.

Teligent will be operational in up to 17 markets by the end of 1998. Stock brokerage Legg Mason recommends purchase of Teligent noting that "broadband wireless can deliver bandwidth economically to more customers than fiber solutions." "Teligent Moving Ahead," First Call, Aug. 7, 1998.

◆ CLECs.

There is heated competition for high-speed access to businesses. The CLECs all have rolled out high-speed T-1 and T-3 access to business customers and Internet service providers. Virtually every CLEC web page touts the availability of T-1s and T-3s. See, e.g., <http://www.wcom.com/home.shtml> (MFS); and <http://www.uu.net> (UUNet). Furthermore, many of these CLECs are well funded: AT&T bought TCG while WorldCom bought MFS and MCI Metro.

Hughes DirecPC. Users everywhere today can download the World Wide Web at 400 kbps using DirecPC. The product has received glowing reviews. "DirecPC 2.0," (Aug. 25, 1998) <http://www.zdnet.com/pcmag/firstlooks/9808/f980825a.html>; "Web Pages from Heaven," InternetWeek (June 15, 1998). The company plans to roll out a two-way high-speed service in a year. Id.

Teledesic. By the year 2003, Teledesic will reach every home in Bell Atlantic's region with broadband. Teledesic notes that "Covering nearly 100 percent of the Earth's population and 95 percent of the landmass, the Teledesic Network is designed to support millions of simultaneous users. . . Most users will have two-way connections that provide up to 64 Mbps on the downlink and up to 2 Mbps on the uplink. Broadband terminals will offer 64 Mbps of two-way capacity." <http://www.teledesic.com/tech/details.html>.

LMDS. A recent article in the trade press noted that local multipoint distribution service ("LMDS") "will surely compete with CATV data services and DSL within a multitude of metropolitan areas throughout the United States, and current indications are that it will prove a strong competitor." "LMDS: Finally ready for prime time?" [http://www.americasnetwork.com/issues/98issues/980801/980801\\_lmlds.html](http://www.americasnetwork.com/issues/98issues/980801/980801_lmlds.html). While no LMDS systems currently are deployed, Nortel notes that, "LMDS networks can be built quickly" because they have the same basic architecture as PCS, which also has been rolled out quickly. Furthermore, LMDS systems will have many advantages, including lower costs than competing technologies, no legacy systems with associated compromises, and "guaranteed quality of service, privacy, security and attractive pricing, as well as a range of new service offerings including video-on-demand, group video conferencing and voice-over-data applications." Id.

◆ Utilities.

The electric companies are perfecting technologies to offer high-speed broadband through the power lines. Nortel has debuted “Direct Power Link,” a technology that “allows for high-speed web access over electric power lines.” The European Commission has cleared a joint venture operating in Britain called Nor.Web; ten electric utilities around the world have agreed to test the technology. “EC Clears Nor.Web,” *The Media Intelligence Bulletin*,” April 24, 1998.